

*Penobscot  
Nation  
Water Resources Program*

LUPC Hearing on Pickett Mountain Mine  
Rezoning Application

Dan Kusnierz, Water Resources Program Manager  
Penobscot Nation

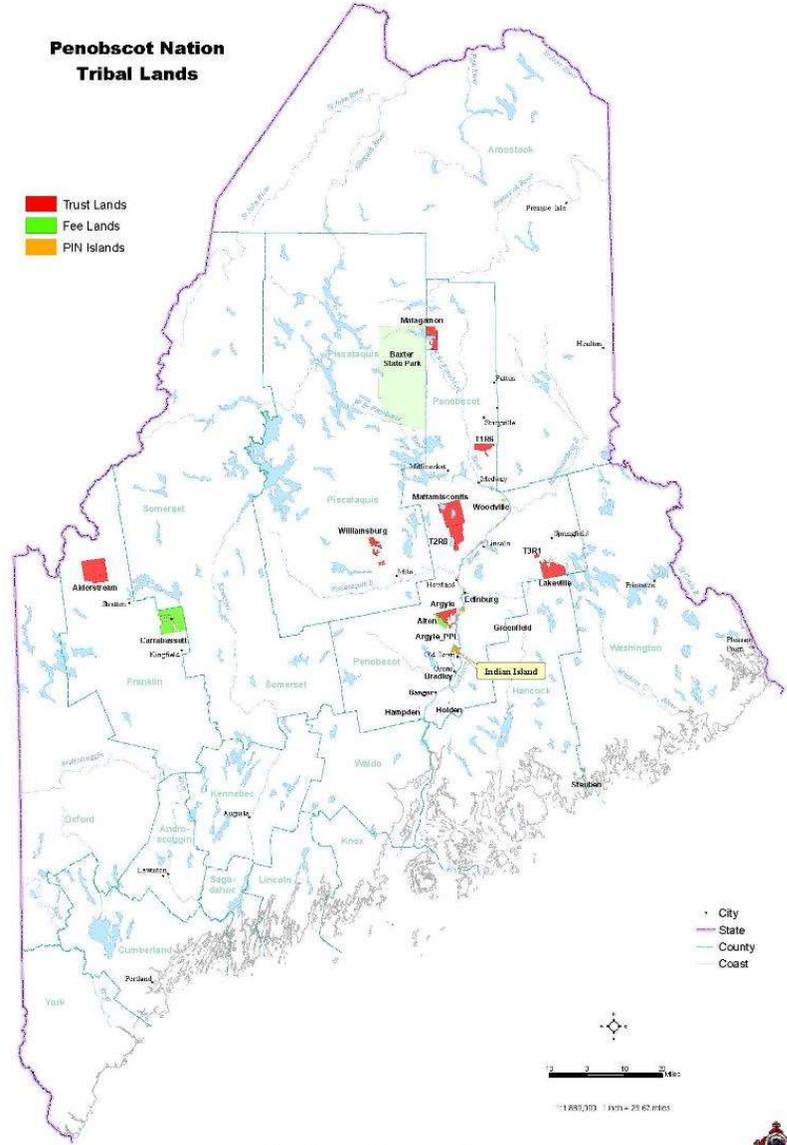
- panawahpskewi (Penobscot) are the people of the place of the white rocks
- Member of Wabanaki (Dawnland people) Confederacy – the people who live where the sunrise first touches each day





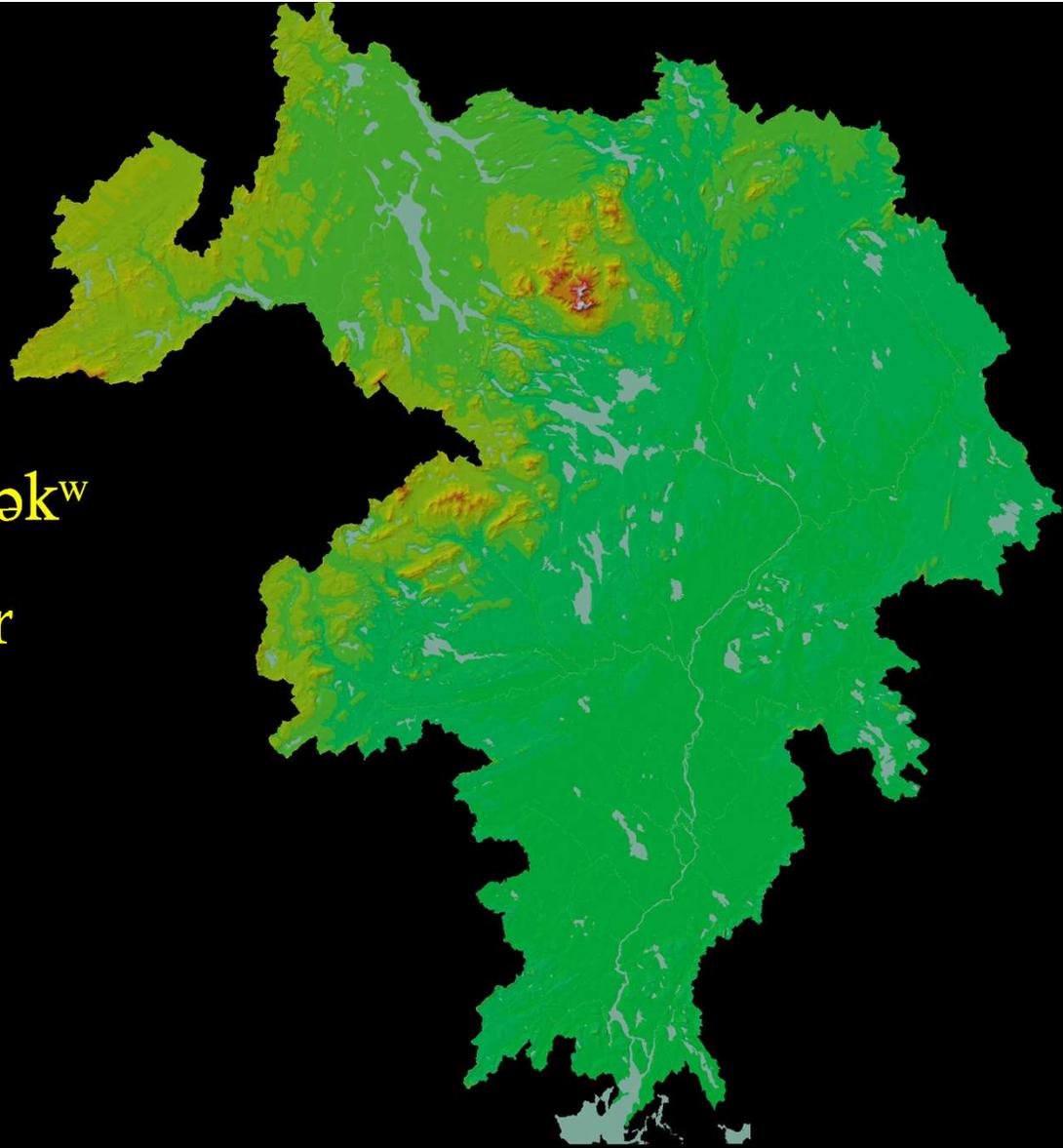
# Penobscot Nation Tribal Lands

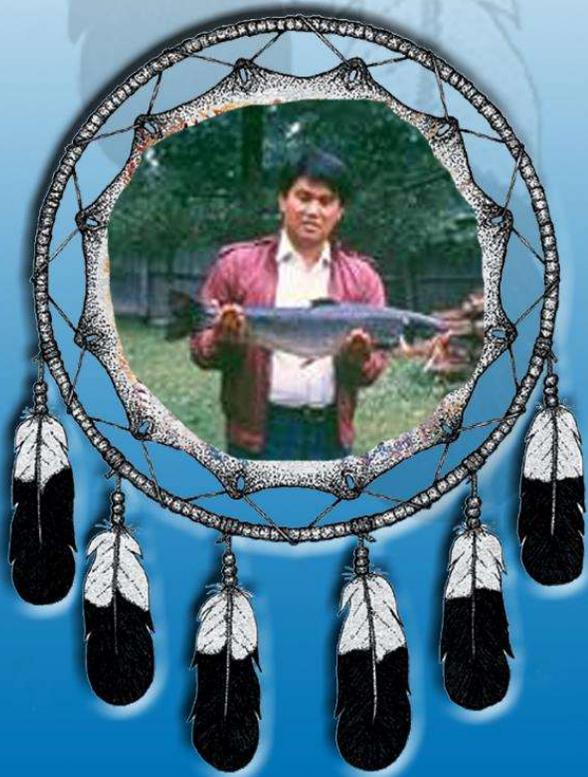
- Trust Lands
- Fee Lands
- PIN Islands



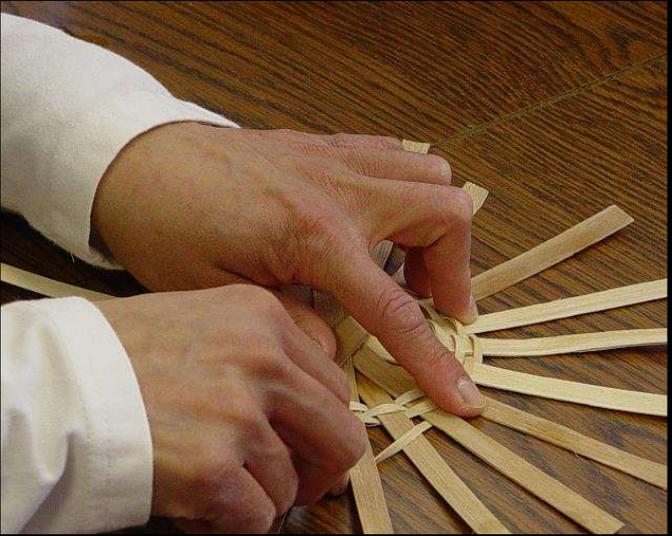


The panawáhp-skewtək<sup>w</sup>  
(Penobscot) River  
Watershed



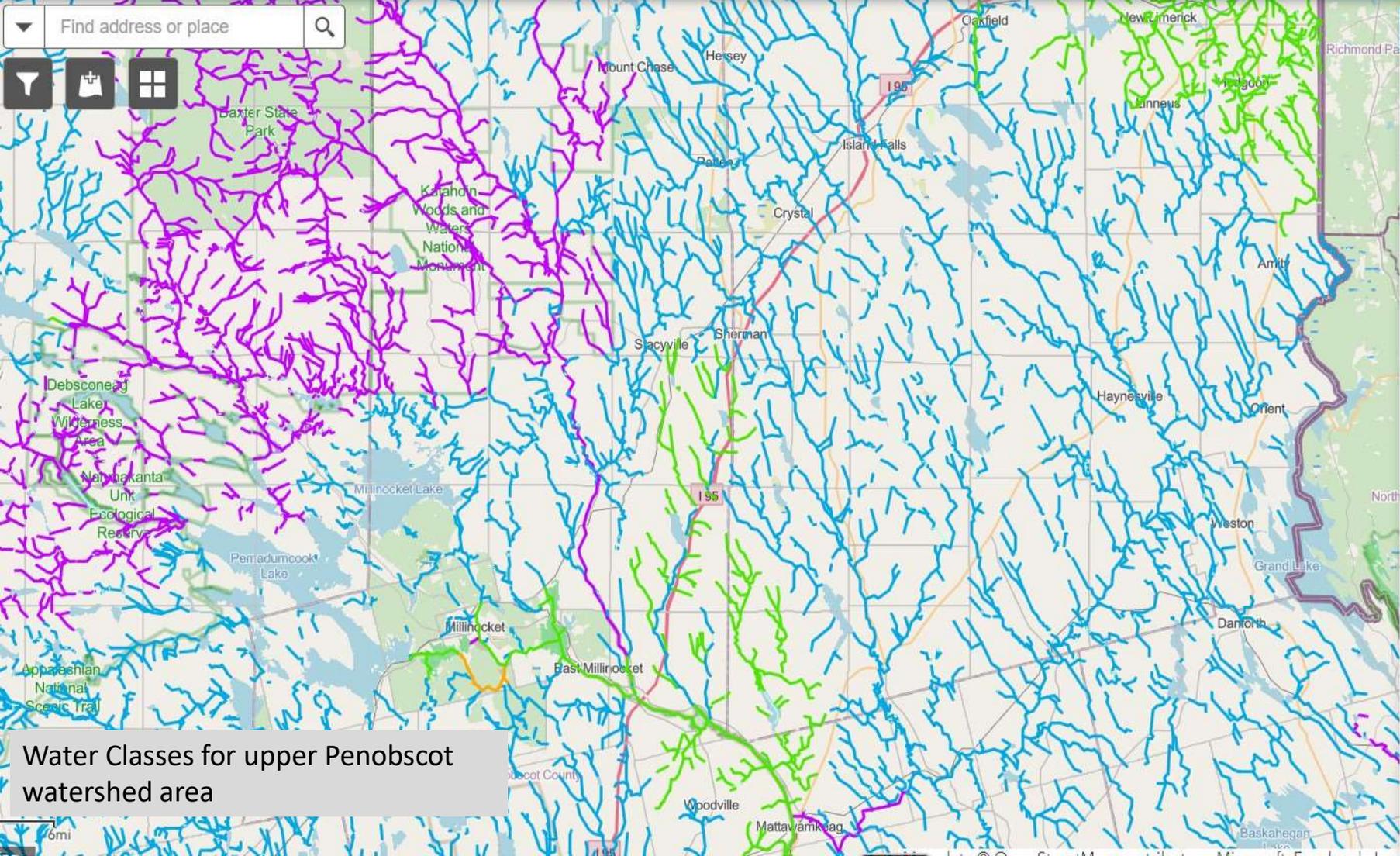








Find address or place

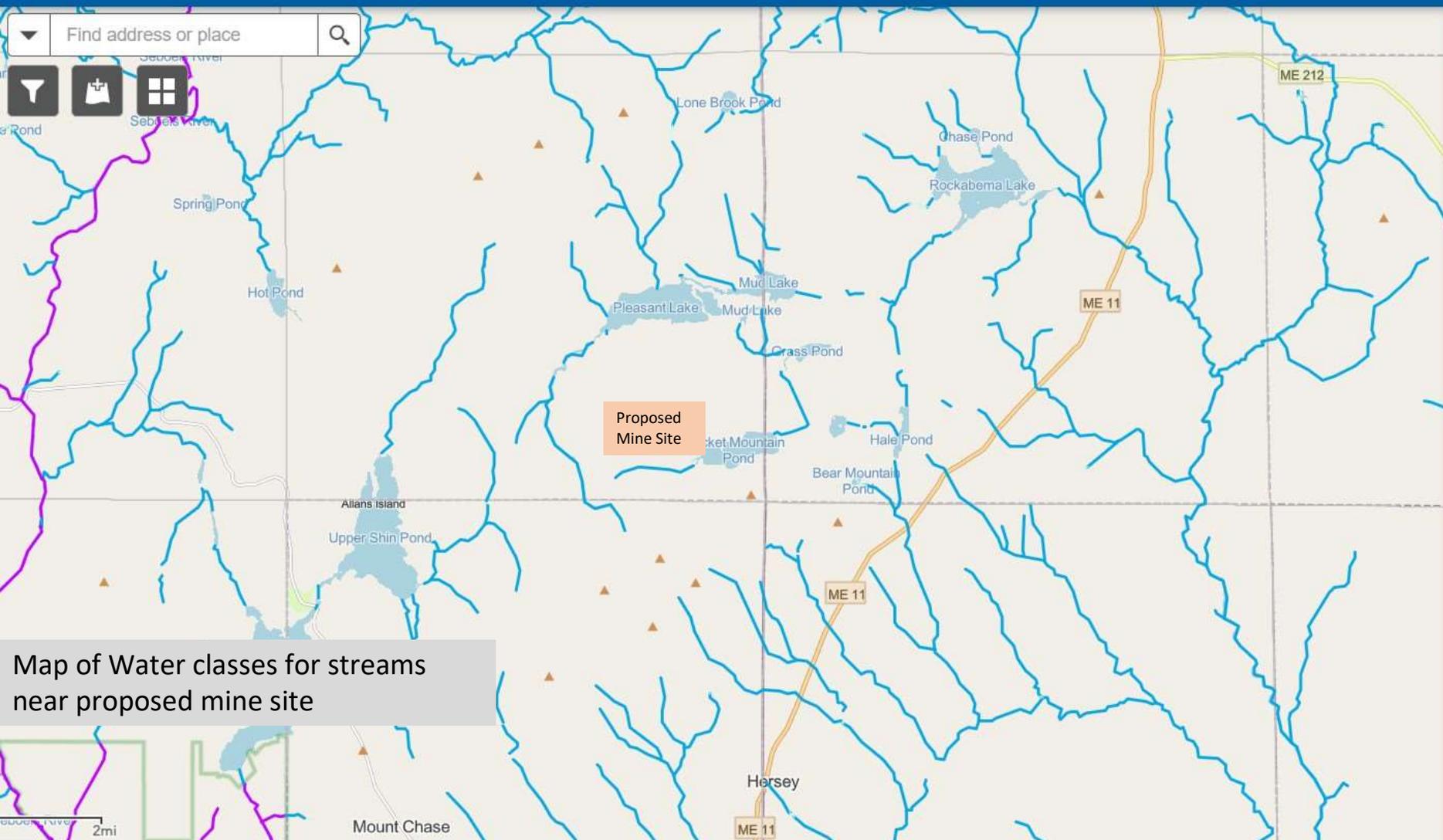


Legend

- River Class**
  - AA
  - A
  - B
  - C
  - GPA
- River Polygons**
  - AA
  - A
  - B
  - C
- Marine Class**
  - SA
  - SB
  - SC
- Maine Towns**

Water Classes for upper Penobscot watershed area

6mi



Legend

River Class

- AA
- A
- B
- C
- GPA

River Polygons

- AA
- A
- B
- C

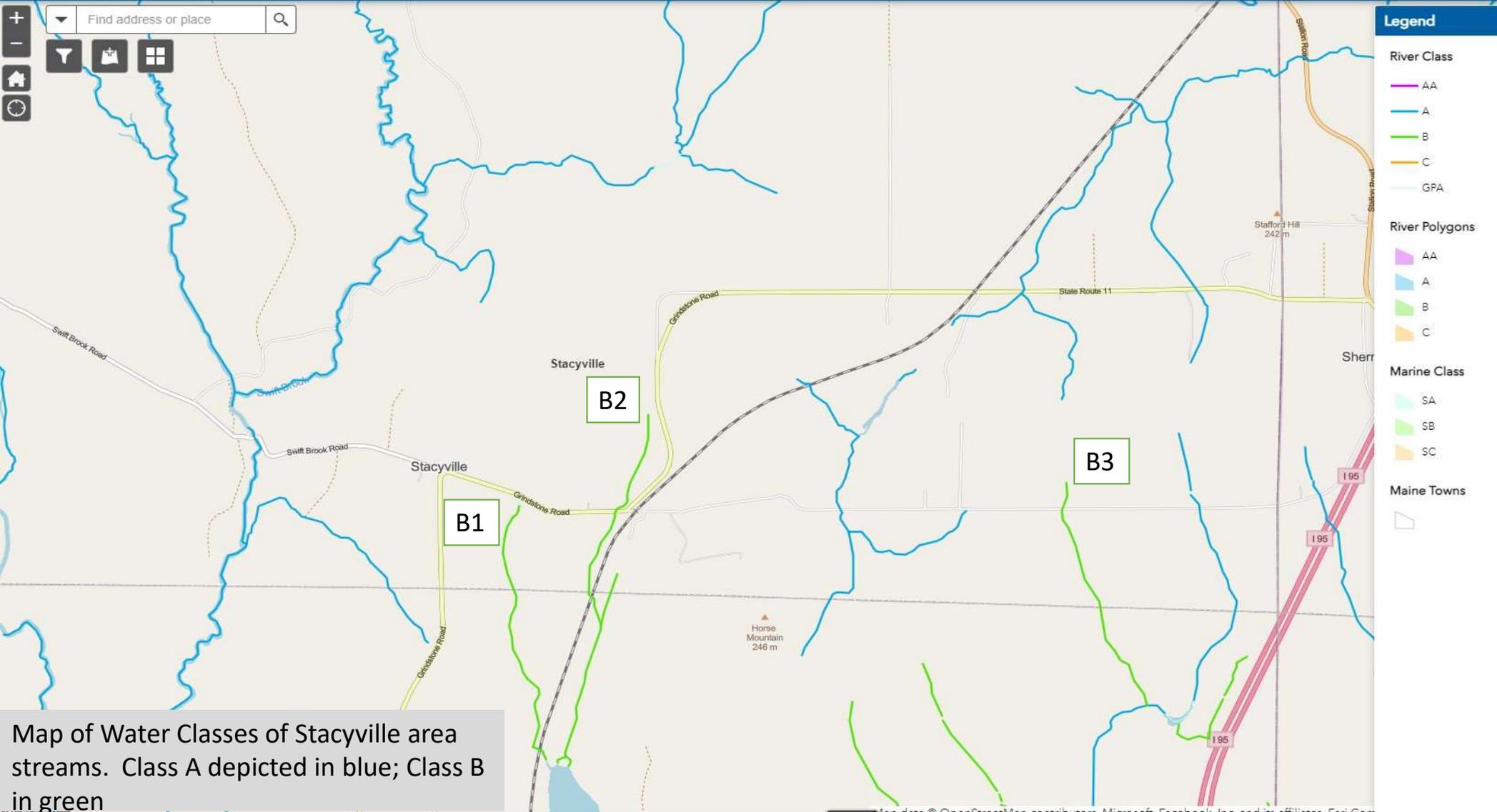
Marine Class

- SA
- SB
- SC

Maine Towns



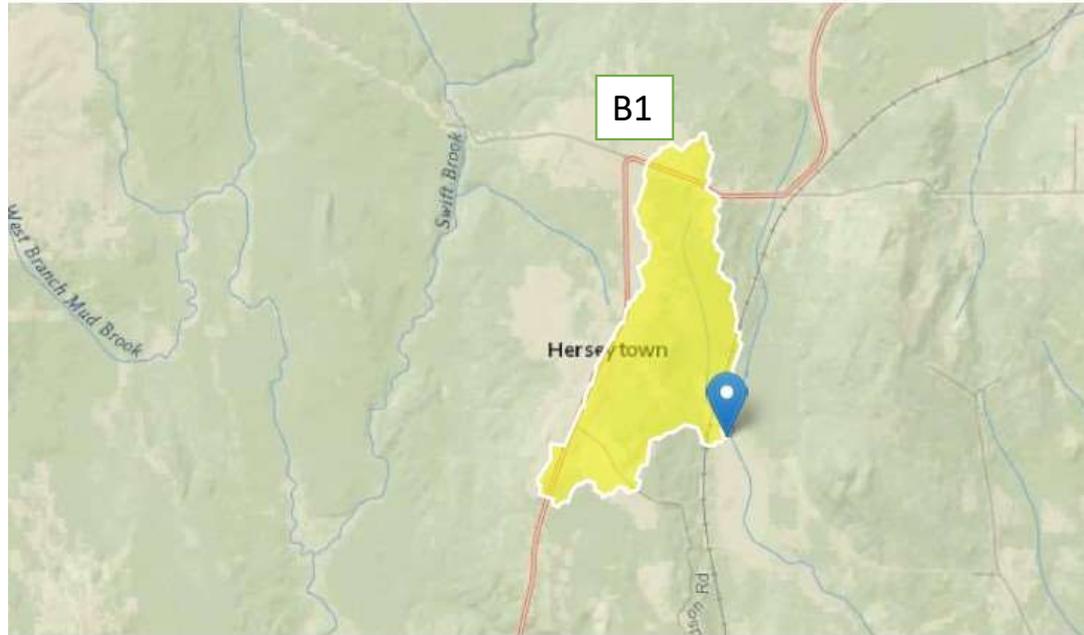
Map of Water classes for streams near proposed mine site



Map of Water Classes of Stacyville area streams. Class A depicted in blue; Class B in green

# StreamStats Report

Region ID: ME  
Workspace ID: ME20230906165722888000  
Clicked Point (Latitude, Longitude): 45.84222, -68.49428  
Time: 2023-09-06 12:58:13 -0400



+ Collapse All

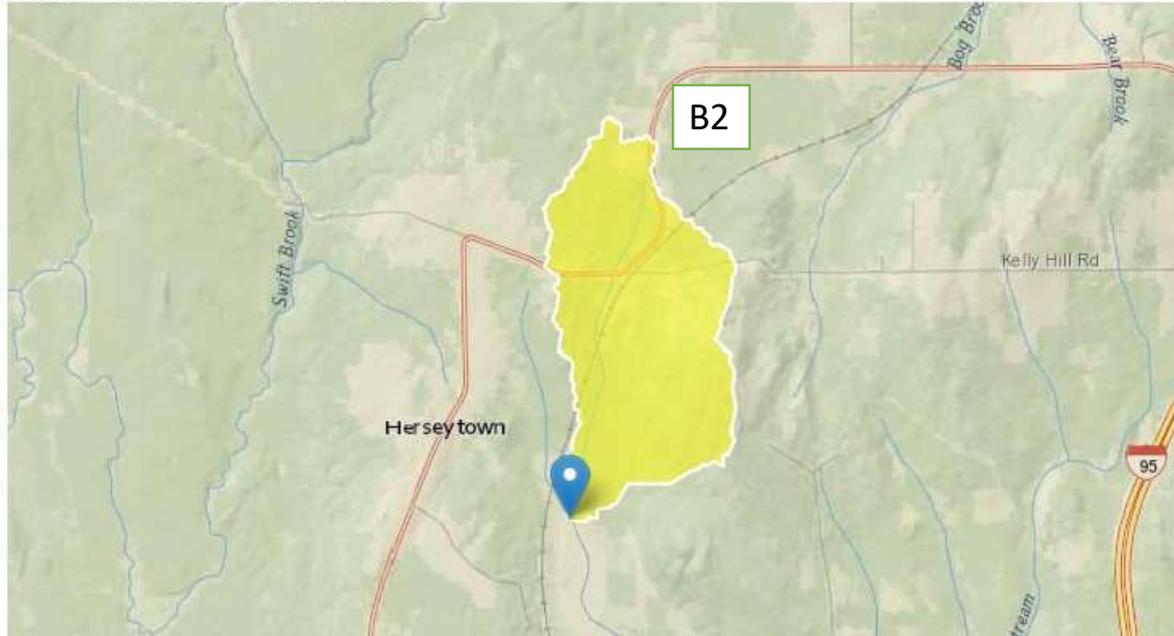
## > Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.95	square miles

Drainage area of Class B Stream B1

# StreamStats Report

**Region ID:** ME  
**Workspace ID:** ME20230906170507682000  
**Clicked Point (Latitude, Longitude):** 45.84197, -68.49368  
**Time:** 2023-09-06 13:05:37 -0400



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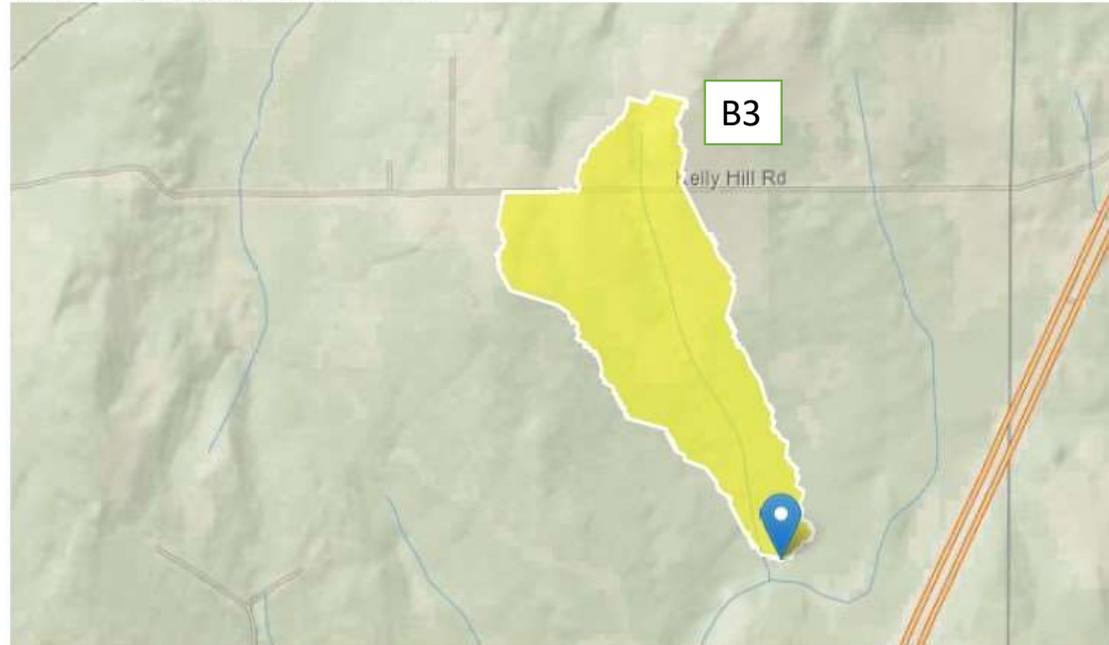
## Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	1.42	square miles

Drainage area of Class B Stream B2

# StreamStats Report

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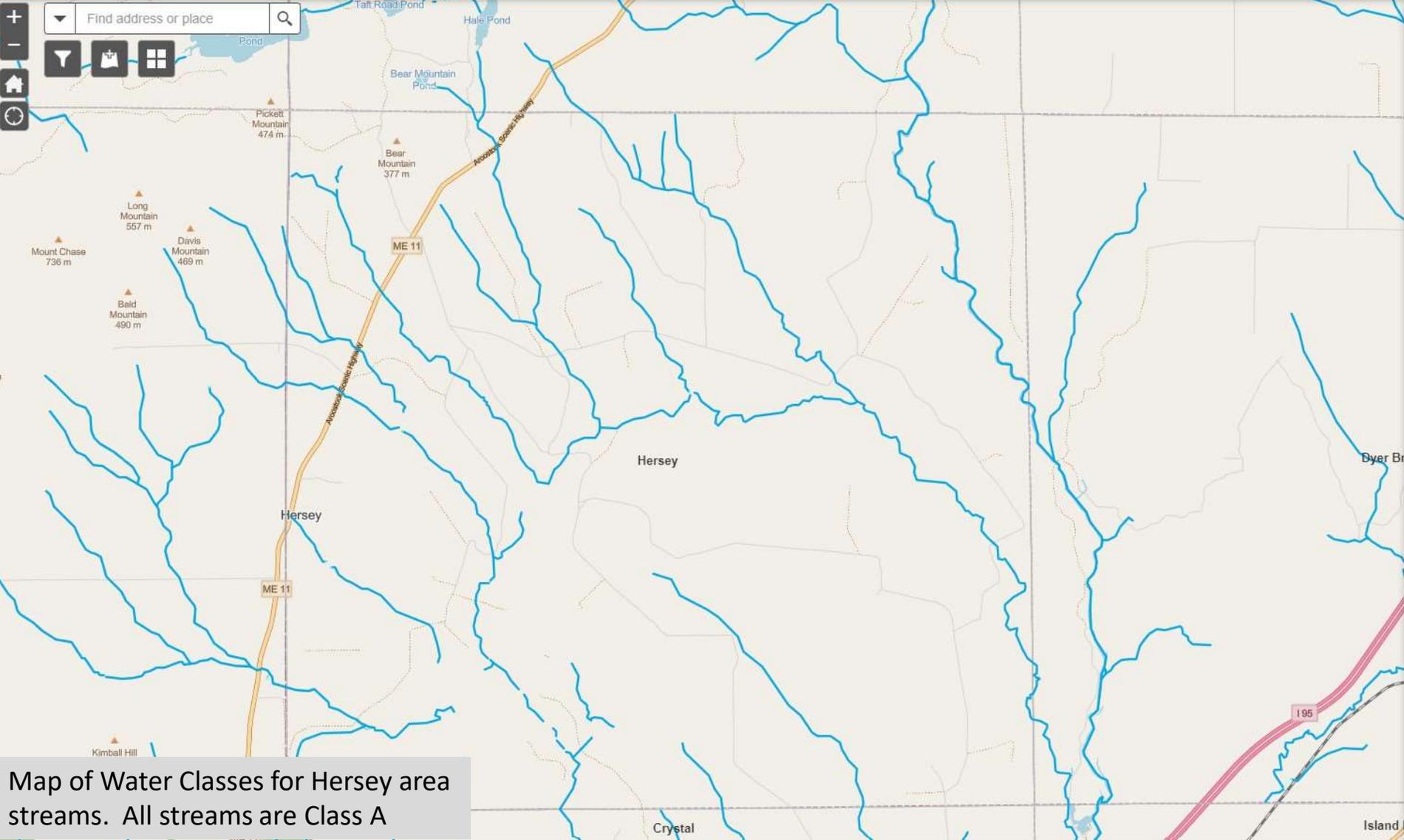


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## > Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.4	square miles

Drainage area of Class B Stream B3



**Legend**

**River Class**

- AA
- A
- B
- C
- GPA

**River Polygons**

- AA
- A
- B
- C

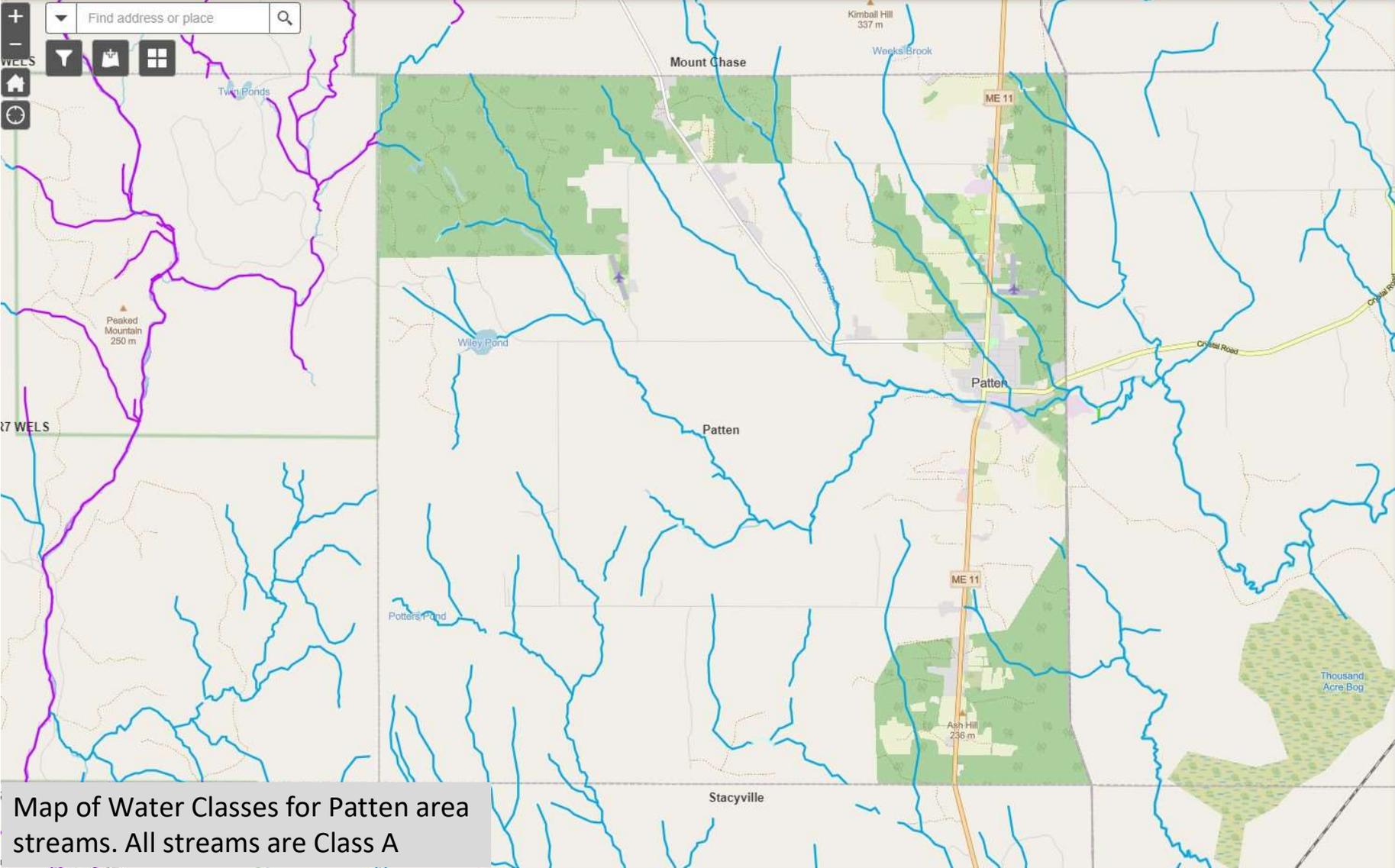
**Marine Class**

- SA
- SB
- SC

**Maine Towns**

- 

Map of Water Classes for Hersey area streams. All streams are Class A



**Legend**

**River Class**

- AA
- A
- B
- C
- GPA

**River Polygons**

- AA
- A
- B
- C

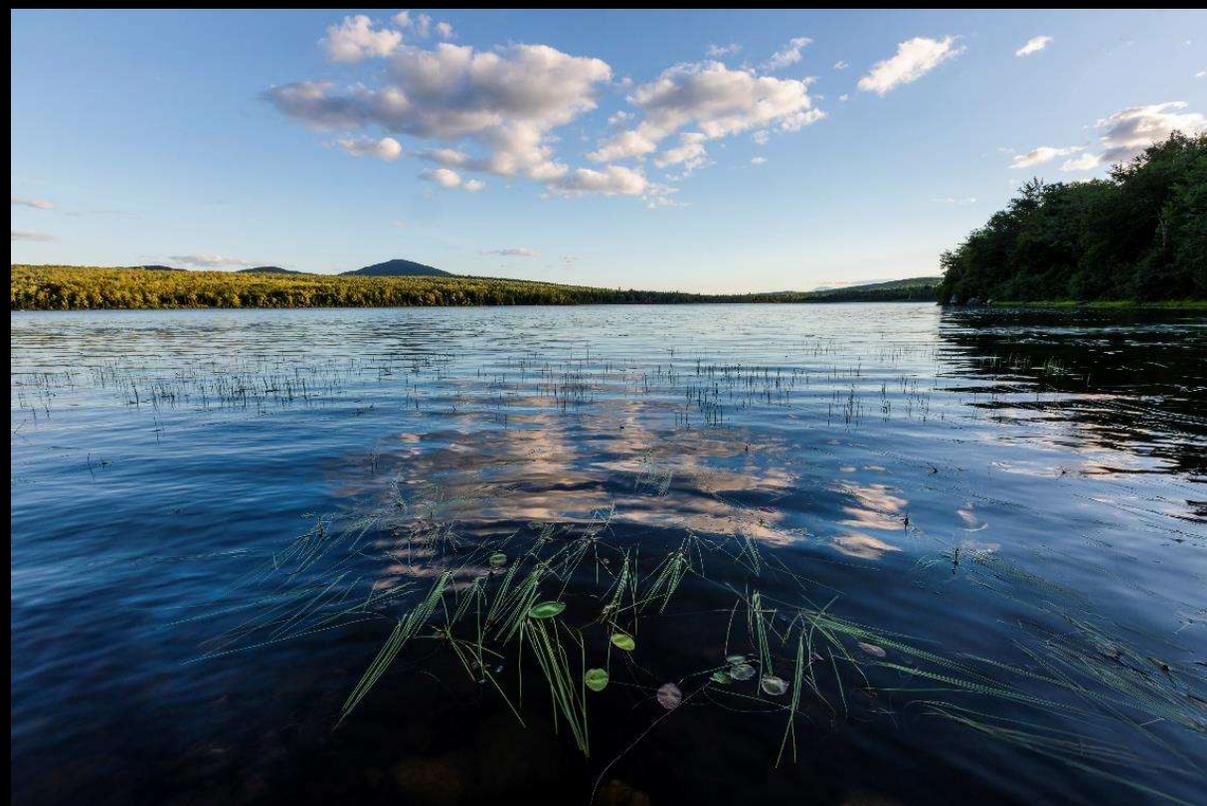
**Marine Class**

- SA
- SB
- SC

**Maine Towns**

- 

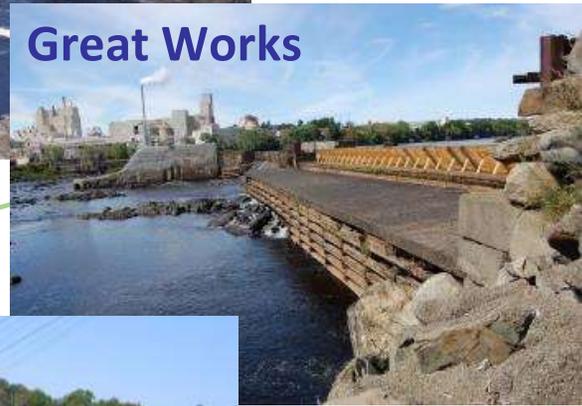
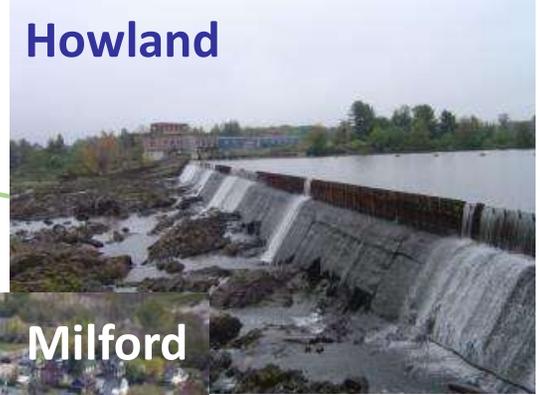
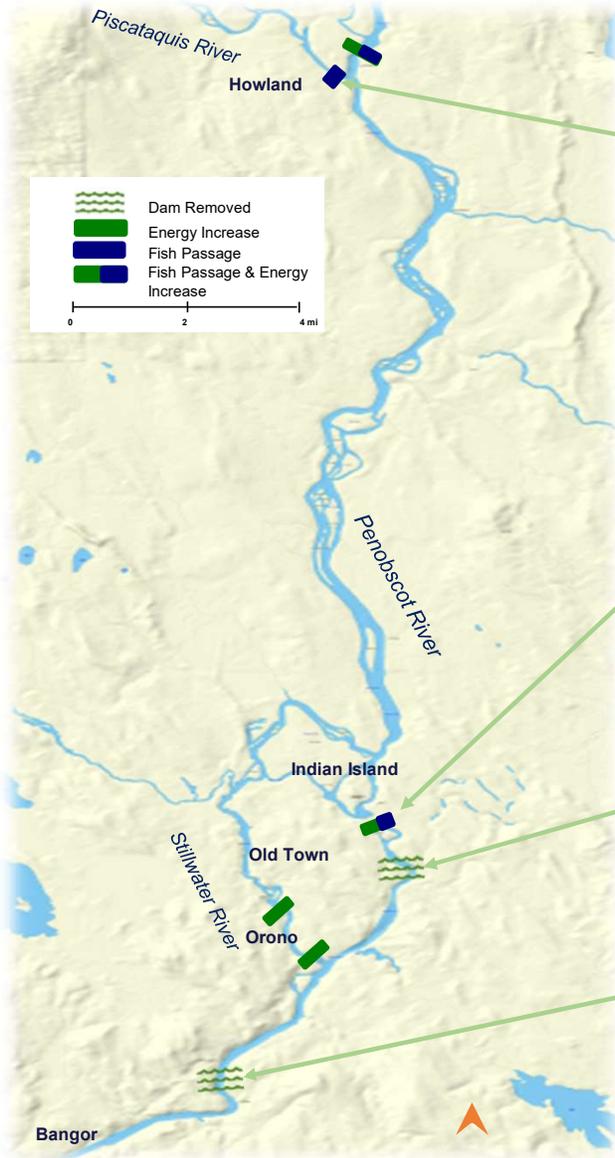
Map of Water Classes for Patten area streams. All streams are Class A



Pleasant Lake

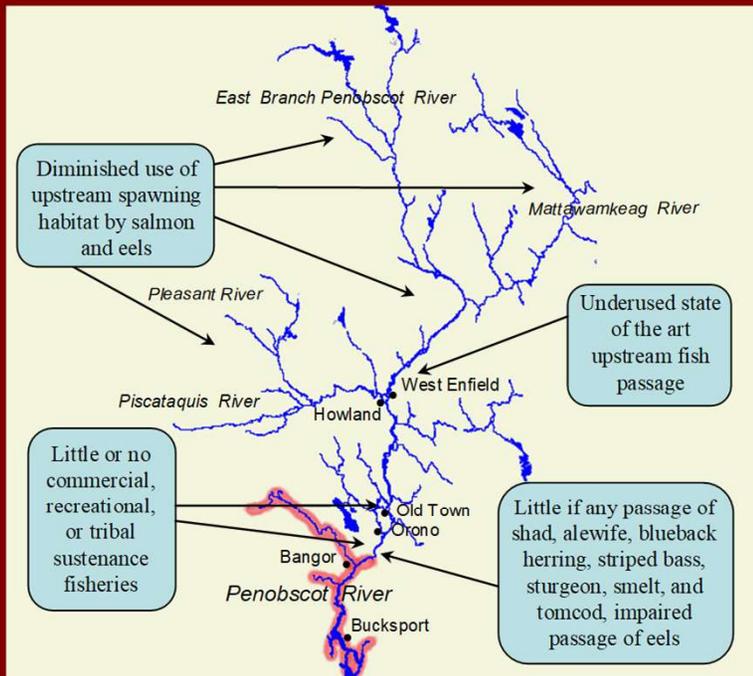


Grass Pond

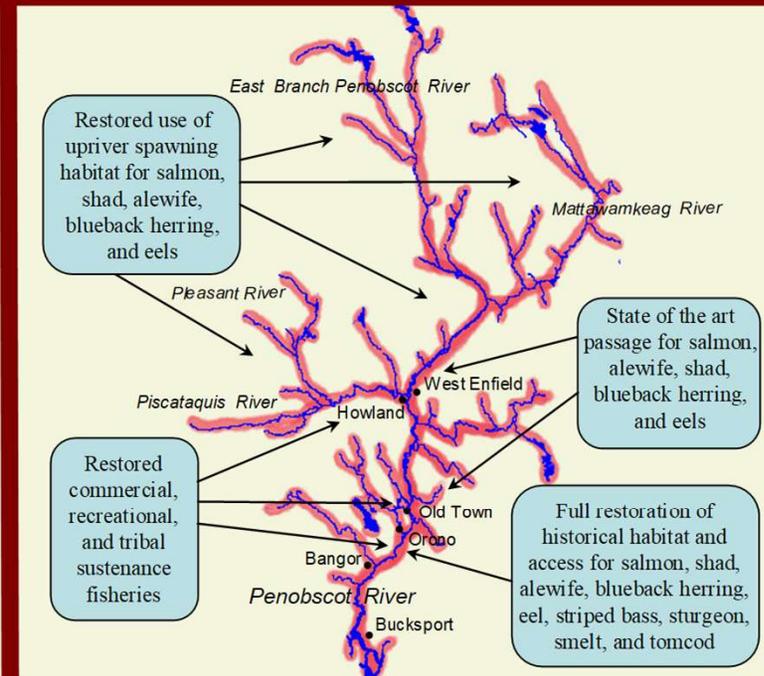


# Penobscot River Restoration Project

## Before and After Habitat Access



**Existing Access for Sea-Run Fish**



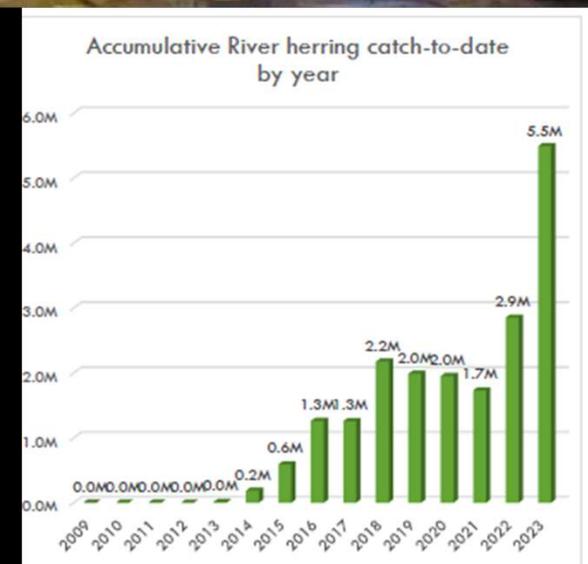
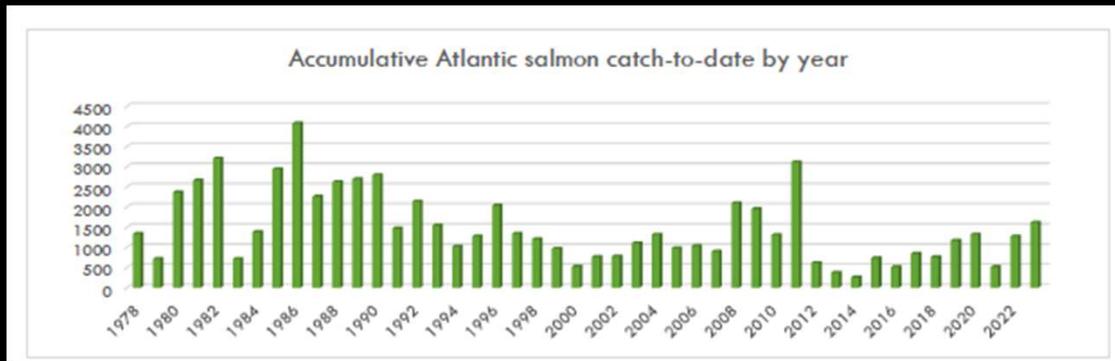
**Significantly Improved Access for Sea-Run Fish to Nearly 1,000 Miles**

# Atlantic Salmon Restoration Efforts East Branch Penobscot and Mattawamkeag Rivers



# Atlantic salmon in Penobscot watershed

- Historically 75,000 – 100,000 adult returned annually
- Penobscot River hosts largest run of Atlantic salmon left in US
- Current returns 1,000 -1,500; with 1,615 so far in 2023
- Recovery of Atlantic salmon likely depends on return of healthy populations of other diadromous species such as river herring, American shad, Sea lamprey, etc.
- ~5.5 million river herring returned in 2023
- West Branch Mattawamkeag and East Branch Penobscot Critical Atlantic Salmon Habitat



# Atlantic salmon and AMD

- Thrive in pH 6.5 – 8.2 waters
- Low pH causes increase in metals in surface water and changes toxicity of metals to fish
- Moderately acidic conditions fatal for young; pre-smolt transition to saltwater tolerant smolts
- Even short duration, moderately acidic leads to <saltwater tolerance, gill damage, Al accumulation
- Presence of mine pollution can lead to AS avoiding waters



# Brook Trout

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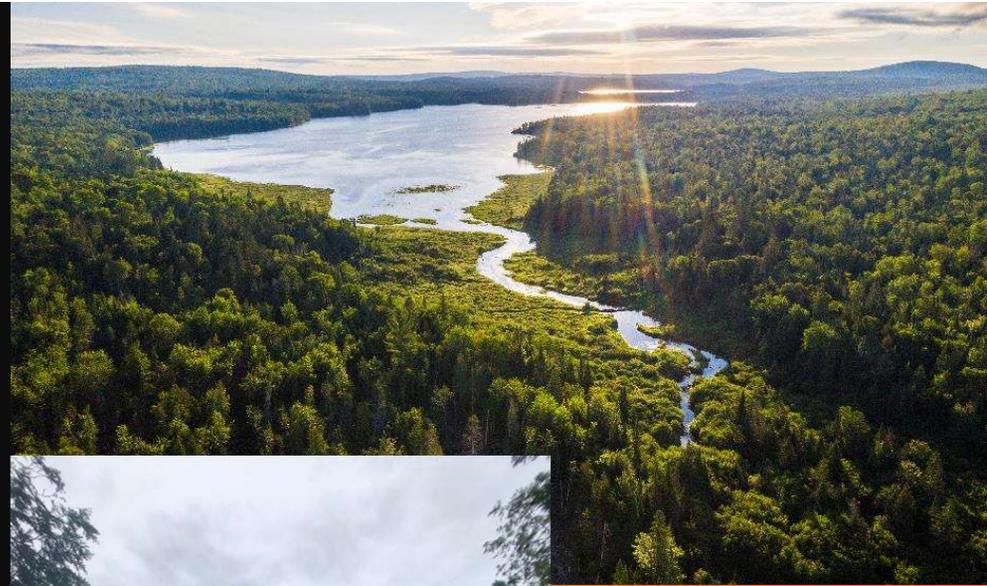
- ME most important state in eastern US for wild brook trout
    - Extensive, intact, self-reproducing
  - Economically important sport fish in ME including for tribal guides
  - Important sustenance fish for Wabanaki tribes
    - Lower in contaminants than other fish
  - State Heritage Fish Waters
    - Ponds with brook trout or char not stocked, or not stocked >25 years
- 



# Brook Trout

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- Pleasant Lake, Mud Lake, Grass Pond designated as State Heritage Fish Waters
  - MDIFW *“support healthy populations of salmonids (and smelt) and vitally important to protect tributaries as well as the lakes since they contain an abundance of spawning and rearing habitat”*
  - Outstanding fisheries, yet Wolfden cites outdated studies from 1950s
- 



Grass Pond

Pleasant Lake  
Lake

# Brook Trout and AMD

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- Adult BT can tolerate pH 5.0-9.5, but stressed at ends of range; eggs and fry less tolerant
  - Metal toxicity increases with low pH; small amounts cause stress death, especially in young fish
  - AMD from coal and metal mines contributes to declines of brook trout in mid-Atlantic and Appalachian historic range
  - In PA 2,500 miles of streams impacted by AMD
- 



Acid mine drainage (PA DEP)

